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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/530,196	08/22/2000	Nobuo Kimura	31981-160441	2129

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Venable  
Post Office Box 34385  
Washington, DC 20043-9998

EXAMINER
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JOHNSON, EDWARD M

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 06/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/530,196

Applicant(s)

KIMURA ET AL.

Examiner

Edward M. Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18,24-39 and 41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18,24-39 and 41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 18, 24-39, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO97/00134 (U.S. Pat. No. 6,228,480 referred to for translation).

Regarding claim 18, Kimura '480 discloses a photocatalyst-carrying structure comprising a photocatalyst film laminated (see column 15, lines 44-46 and column 37, lines 12-15; laminating involves heat and pressing) onto a metallic substrate (see column 4, lines 8-9); and coating by dipping, drying the adhesive layer (see Examples 67-71), adding a silane coupler (see column 7, lines 39-41) and laminating (see column 15, lines 44-46 and column 37, lines 12-15). Kimura '480 does not irradiate UV rays in UV-A range at a strength of 3 mW/cm<sup>2</sup> under an atmospheric temperature of 25 °C and relative humidity of 70%,

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the conditions upon which the recitation "capable of decomposing triolein at a rate of 5  $\mu\text{g}/\text{cm}^2/\text{day}$ " is made contingent.

Kimura fails to disclose 60-200°C.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to conduct the laminating of Kimura at 60-200°C because Kimura '480 discloses the laminating "at a process for drying and winding at the drying zone" (see Example 73) and drying the coated substrate at 150°C or less as a method to carry an adhesive layer on the substrate (see column 6, lines 19-27).

Regarding claims 24-26, 35-39, Kimura '480 discloses a colored steel or aluminum plate (see column 13, lines 11-25), polyvinylchloride and polymethylmethacrylate resins (see column 14, lines 16-25).

Regarding claims 27, 31, and 34 Kimura '480 discloses 5 microns or less (see column 10, lines 57-63).

Regarding claim 28, Kimura '480 discloses a silane coupler (see column 7, lines 39-41).

Regarding claim 29, Kimura '480 discloses 0.001-5% silicon compound in the solution (see column 8, lines 58-61) and 10-50% silicon-modified resin (see column 8 lines 1-3).

Regarding claim 30, Kimura '480 discloses 0.001-5% silicon compound in the solution (see column 8, lines 58-61) and methyl

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trimethoxysilane (see column 9, lines 16-18) as silicon compound, which is in an amount of 0.001 to 5% (see column 9, lines 26-30).

Regarding claim 32, Kimura '480 discloses 0.1-30% metal oxide sol (see column 9, lines 52-53) and titanium dioxide in an amount of 5% (see column 33, lines 28-30 and Table 6).

Regarding claim 33, Kimura '480 discloses silica sol acidified with nitric acid (see Examples 74-77) 2-60% silicon and 5-40% colloidal silica (see column 3, lines 35-38).

Regarding claim 41, it would have been obvious to one of ordinary skill in the art at the time the invention was made to laminate at an optimum pressure within 3-160 kg/cm<sup>3</sup> because Kimura discloses laminating a 20 micron film, which would motivate an ordinary artisan to use an optimum pressure within the claimed range to reach the disclosed results of 20 microns and a sticking film.

#### ***Response to Arguments***

3. Applicant's arguments filed 4/17/06 have been fully considered but they are not persuasive.

It is argued that Applicants respectfully traverse the rejection... under 35 U.S.C. 102(b). This is not persuasive because the rejection us under 103(a).

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It is argued that in accordance with the method of the claims... temperature range from 100 to 200°C. This is not persuasive because it would have been obvious to one of ordinary skill in the art at the time the invention was made to conduct the laminating of Kimura at 60-200°C because Kimura '480 discloses the laminating "at a process for drying and winding at the drying zone" (see Example 73) and drying the coated substrate at 150°C or less as a method to carry an adhesive layer on the substrate (see column 6, lines 19-27).

It is argued that a photo catalyst layer/adhesive layer/base... an integral laminate. This is not persuasive because Kimura discloses 1) a metallic substrate (see column 4, lines 8-9), and 2) a photocatalyst film laminated onto the substrate (see column 15, lines 44-46 and column 37, lines 12-15), which would obviously, to an ordinarily skilled artisan, at least suggest heat and pressing to perform the disclosed laminating.

It is argued that specifically, Kimura does not describe heat pressing... ranges from 3 to 160 kg/cm<sup>2</sup>. This is not persuasive because it is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to pressure at least about 3x atmospheric to perform the disclosed laminating, absent evidence of unexpected results.

It is argued that the USPTO findings indication that Kimura is not properly applied as an anticipatory reference. This is not persuasive because the rejection is made under 103(a).

It is argued that however, the temperature of 100 to 200°C... drying the coated substrate. This is not persuasive because Applicant appears to admit that Kimura '480 discloses drying at 150°C. Thus, since the laminating "at a process for drying and winding at the drying zone" (see Example 73), it would have been obvious to laminate at the disclosed drying temperature at the drying zone, as disclosed.

It is argued that the USPTO states that "one skilled in the art would interpret... as disclosed in Kimura." This is not persuasive because Kimura discloses the laminating "at a process for drying and winding at the drying zone" (see Example 73), it would have been obvious to laminate at the disclosed drying temperature at the drying zone, as disclosed.

It is argued that *in applicants' view Kimura leads way from the claims of the instant case*. This is not persuasive because Applicant appears to admit that Kimura '480 discloses drying at 150°C. Thus, since the laminating "at a process for drying and winding at the drying zone" (see Example 73), it would have been obvious to laminate at the disclosed drying temperature at the drying zone, as disclosed.

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It is argued that the method of the present claims improves the function of the photocatalyst... previously filed DECLARATION. This is not persuasive because Applicant only provides data from non-reheated and 100 degrees. However, no comparison is made against the prior art disclosure of 150°C or less. Thus the data are not commensurate in scope with the claims and prior art.

It is argued that first of all, applicants respectfully direct... and the carrier in Kimura. This is not persuasive because Applicant appears to admit that Kimura '480 discloses drying at 150°C. Thus, since the laminating "at a process for drying and winding at the drying zone" (see Example 73), it would have been obvious to laminate at the disclosed drying temperature at the drying zone, as disclosed.

It is argued that as a matter of fact, Pyrene film P-2161... of the attached Exhibit. This is not persuasive because Applicant appears to suggest that shrinkage would render the lamination inoperable when, as a matter of fact, some shrinkage could be desirable to avoid air bubbles and facilitate a smooth and tight lamination. And, in any case, Kimura is not considered to teach away from the claimed invention since Kimura specifically discloses the laminating "at a process for drying and winding at the drying zone" (see Example 73), it would have



been obvious to laminate at the disclosed drying temperature at the drying zone, as disclosed.

It is argued that however, in the present invention, a pressing process... from 100 to 200°C. This is not persuasive for the reasons above.

It is argued that however, the coating solution in all Examples... in the declaration. This is not persuasive because because Applicant appears to admit that the declaration provides no data relative to laminating at 150°C, which is suggested by the prior art disclosures of drying at 150°C and laminating by "winding at the drying zone" (see Example 73).

#### **Conclusion**

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M. Johnson whose telephone number is 571-272-1352. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 571-272-1358. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-0987.



Edward M. Johnson  
Primary Examiner  
Art Unit 1754

EMJ

June 8, 2006